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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,166	01/26/2004	Kazuaki Ono	00684.003574	6715
5514	7590	12/07/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			LEE, PETER	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,166

Applicant(s)

ONO ET AL.

Examiner

Peter Lee

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/17/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Delete "t" on page 1 line 24.

Delete "fixing" on second appearance on page 5 line 10.

Delete "y" on page 6 line 10.

Appropriate correction is required.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

Claim 1 recites the limitation "said pressing roller" in page 38 line 20. This implies a specific pressing roller that is not mentioned before hand. There is insufficient antecedent basis for this limitation in the claim. Replace "said pressing roller" with --pressing rotatable member--

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1 and 4-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Kurotaka et al. (US pn 6243559) in view of Tomatsu (US 2002/0131801).

Kurotaka teaches a thermal roller fixing device (fig. 23) (ie. image heating device) comprising: a fixing belt (fig. 23 part 3) (ie. movable belt) for heating an image on a recording material col. 9 lines 25-35); a fixing roller (fig. 23 part 2) (ie. supporting member), having an elastic surface (col. 1 line 59) (ie. elastic layer), for supporting the belt, a pressure roller (fig. 23 part 4) (ie. pressing rotatable member), pressed toward said fixing member with said belt interposed there between (col. 9 lines 45-47), for forming the contact pressure portion between the fixing belt and pressure roller (col. 9 lines 34-37) (ie. nip for nipping and feeding the recording material); and pressure springs that are taught to be used to press the fixing roller into the pressure roller (ie. pressing means for supporting opposite end portions of said supporting member and for pressing said supporting member and said pressing rotatable member toward each other); wherein a surface hardness of said fixing roller can be smaller than a surface hardness of said pressing roller without any ill effect (col. 28 lines 37-43), and said pressing roller has a uniform diameter throughout (note: col. 24 lines 57-60) (ie. straight configuration in a longitudinal cross-section).

Kurotaka also teaches an auxiliary roller (fig. 23 part 12; note col. 20 line 67- col. 21 line 2) (ie. second supporting member), pressing the said pressure roller, for serving as a guide member for the said fixing belt (ie. supporting said belt).

Kurotaka does not teach the fixing roller (ie. supporting member) or the auxiliary roller (ie. second supporting member) having an outer diameter which is larger in a central portion than at opposite end portions.

It is Tomatsu who teaches having a heat roller (fig. 6 part 26) (ie. supporting member) in the shape of either a reverse crown or arch crown shape (page 5 paragraph [0092]) (ie. outer diameter larger in a central portion). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the arch crown shape taught by Tomatsu when forming the fixing roller and auxiliary roller of the thermal roller fixing device as taught by Kurotaka. The auxiliary roller taught by Kurotaka is considered analogous to the arch crown shaped heat roller taught by Tomatsu because they both serve the same function of pressing a fixing means against a pressure roller. One of ordinary skill in the art would have been motivated to use the arch crown shaped roller because it has the benefit of eliminating creasing of the paper as it passed through the fixing device (paragraph [0006]).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurotaka et al. in view of Tomatsu, and further in view of Hayashi et al. (US pn 6496666) .

Kurotaka in view of Tomatsu teach all of the limitations as written above. According to claim 2, however, they do not expressly teach the pressing rotatable member being made of a core metal which has a straight configuration in a longitudinal cross section.

It is Hayashi who teaches having a pressing roller (fig. 2 part 5) (ie. pressing rotatable member) having a core made of iron or other metals of similar properties. It would have been obvious to a person of ordinary skill at the time the invention was made to have the core of the pressure roller seen in the invention taught by Kurotaka in view of Tomatsu, be made of a metal material as taught by the pressing roller seen in Hayashi. One of ordinary skill in the art would

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have been motivated to make the core made of a metal such as iron because of its desirable properties of low specific heat and high thermal conductivity (col. 8 lines 34-41).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurotaka et al. in view of Tomatsu, and further in view of Oda et al. (US pn 5303016).

Kurotaka in view of Tomatsu teach all of the limitations as seen above pertaining to the claims from which claim 3 depends upon. They do not, however, explicitly teach the supporting member being in the form of a hollow rotatable member.

It is Oda who teaches a fixing roller (fig. 2 part 30) (ie. supporting member) being comprised of a hollow cylindrical roller being rotatably supported (col. 4 lines 52-56). It would have been obvious to a person of ordinary skill at the time the invention was made, to make the fixing roller as taught by the invention Kurotaka in view of Tomatsu as explained above, be in the shape of a hollow cylinder as taught by Oda. One of ordinary skill in the art would have been motivated to do so in order to be able to fit a heating element inside of the fixing roller as is common in the art (col. 5 lines 1-5).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

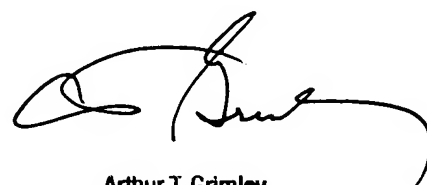
Hiraoka et al. (US pn 5778294) is being cited for teaching having rollers of a fixing belt apparatus in the arch crowned shape.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Lee whose telephone number is 571-272-2846. The examiner can normally be reached on mon-fri 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL 11/29/2004



Arthur T. Grimley
Supervisory Patent Examiner
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